REMARKS

The indication of allowable subject matter in claims 3-5 and 34 is acknowledged and appreciated. Accordingly, new independent claims 37 and 43-45 are added herewith and include what is believed to be allowable subject matter recited in claims 3-5 and 34, respectively.

Claim 1 is the sole rejected independent claim and stands rejected under 35 U.S.C. § 103 as being unpatentable over Matsuo et al. '716 ("Matsuo") in view of Wallace et al. '867 ("Wallace") and Yokoyama et al. '539 ("Yokoyama"). This rejection is respectfully traversed for the following reasons.

As a preliminary matter, it is respectfully submitted that the Examiner has improperly modified a modifying reference. Although there is no limit to the number of references that can be used to modify a *primary* reference, using a third reference to modify a feature taught in a *secondary* reference (already used to modify the primary reference) is too attenuated from the claimed invention to be considered obvious. In the instant case, the Examiner relies on Matsuo as the primary reference, and then relies on Wallace as the secondary reference for adding the barrier film to the device of Matsuo. The Examiner then modifies the alleged barrier film of ***Wallace*** (i.e., secondary reference) with the alleged amorphous layer of Yokoyama. Accordingly, it is respectfully submitted that the Examiner has improperly modified a modifying reference.

In any event, even assuming *arguendo* proper, it is respectfully submitted that the proposed combination does not disclose or suggest the claimed invention. Specifically, the alleged amorphous layer 3 of Yokoyama (Figure 5) does NOT correspond to the alleged gate insulating film (related to transistors) of Matsuo/Wallace. Instead, element 3 of Yokoyama forms part of a memory

device (related to capacitors). The relied on portion of Yokoyama is completely silent as to suggesting use of the alleged amorphous layer 3 as part of a ***gate insulating film in a transistor.*** Moreover, element 3 of Yokoyama is disclosed as a *single* layer located under a lower electrode 8 of a capacitor, so that there is no suggestion as to which layer of the alleged gate insulating film of Matsuo/Wallace it would modify even assuming *arguendo* it could (i.e., high dielectric constant film or lower barrier film).

Indeed, according to one aspect of the present invention, the claimed ***combination*** of elements can provide the capability to suppress leak current in a high-k gate insulating film. Whereas, the relied on portion of Yokoyama is completely unrelated to gate insulating films and the desired/needed structural characteristics thereof, let alone suggest an amorphous lower barrier film specifically as part of a *gate* insulating film (e.g., as used in a transistor). Yokoyama at best discloses an alleged amorphous layer *generally* as used specifically with a capacitor in a memory device, but does not suggest use of an amorphous layer in the *particular* arrangement of semiconductor elements recited in claim 1.

In this regard, it is respectfully submitted that the Examiner selected bits and pieces of the prior art and relied solely on improper hindsight reasoning using only Applicants' specification as a guide to reconstruct the claimed invention. Again, the relied on portion of Yokoyama is completely unrelated to transistor design, and therefore provides no motivation for modifying the composition of the alleged gate insulating film of Matsuo/Wallace.

The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard for establishing obviousness under § 103:

> To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejection does not "establish *prima facie* obviousness of [the] claimed invention" as recited in claim 1 because the proposed combination fails the "all the claim limitations" standard required under § 103.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 103 be withdrawn.

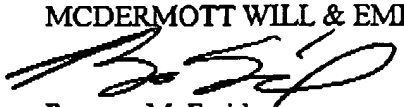
CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

MCDERMOTT WILL & EMERY LLP



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